Presentation of the class

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Presentation of the class

- Objectives of the class:
 - Understand the internals of operating systems
 - Know how to interact with the OS from a program
- Structure of the class:
 - [U] *userland* oriented sessions
 - [K] *kernel* oriented sessions
 - **[G]** *more general* sessions

Organization

- Processes
 - CI1 [U] Threads
 - Cl2 [U] Concurrent programming
 - CI3 [G] Synchronization
 - CI4 [K] System calls
 - CI5 [K] Interruption and scheduling
 - CI6 [K] Sprint: finalization of the scheduler
- Memory
 - CI7 [U] Virtual memory
 - CI8 [K] Memory Management Unit
 - CI9 [G] Architecture
 - Cl10 [K] Sprint

- Input/Output
 - Cl11 [U] Input/Output
 - Cl12 [U] Synthesis: mini-project
 - CI13 [K] File systems
 - Cl14 [K] Sprint
- [CI15] Exam (lab)

Kernel sessions: XV6

During the [K]sessions, you will develop an OS

- Based on the xv6 OS
- On the computer architecture RISC-V
- Development of new OS mechanisms
- *sprint* sessions:
 - finalization of development
 - evaluation by teachers

Evaluation

- 20% Continuous assessment during sprints:
 - how did you implement this mechanism of the OS?
 - what happens if X?
- 80% graded lab exam with several parts:
 - course question(s)
 - explain how you implemented an OS mechanism
 - develop an application

Evaluation of the class

- At the end of the class, students evaluate the class.
- Objective: improve the class